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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,235	10/16/2003	Dwip N. Banerjee	AUS920030730US1	9430

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EXAMINER
CLOUD, JOIYA M

ART UNIT	PAPER NUMBER
2144	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/687,235	BANERJEE ET AL.	
	Examiner	Art Unit	
	Joiya M. Cloud	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/16/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the application filed on October 16, 2003. Claims 1-20 represent Efficient packet desegmentation on a network adapter.

2.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 15-20 claim a computer program product in a computer readable medium where the instant specification specifically mentions examples of computer readable medium that include data signals embodied in a carrier wave or other propagation medium **(paragraph 0026, lines 1-8),** which do not fall under statutory subject matter.

3.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Haggar et al. in view of Tokuyo et al. **(U.S. Publication No. 2001/0017862 A1, hereinafter Tokuyo).**

As per claim 1, Haggar teaches a method for efficient packet desegmentation on a network adapter, comprising: buffering a plurality of data packet segments received at a network adapter from a single connection **(paragraph [0017]**; and responsive to detecting a buffering release condition **(paragraph [0025], lines 1-20, where the buffer release condition such as a particular threshold met or an expiration of a timer or reaching a counter of buffered packets is detected)**, releasing said plurality of data packet segments from said network adapter as a desegmented group to a network stack **(paragraph [0018] and [0025], where desegmentation taught by Haggar is the such of packing and "separting" of outbound packets into selected frames specific to header information and placed in a routing table for specific routing)** , such that data packets segments received from said single connection are efficiently passed to said network stack together **(paragraph [0025])**.

However, Haggar does not explicitly teach a plurality of addresses ***and ports*** extracted from each header of each of said plurality of data packet segments.

Tokuyo teaches a plurality of addresses ***and ports*** located in the header of the IP packets including the four-tuple, src-port, dst-port, dst-ip and the src-ip **(paragraph [0010]).**

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporate Haggar's teachings to the teachings of Tukuyo, for the purpose of providing a means for using connection identifiers to identify packets and packet information.

As per claim 2, Haggar-Tokuyo teaches a method for efficient packet desegmentation further comprising, responsive to receiving a new data packet segment at said network adapter, extracting a plurality of addresses and ports for a connection across which said new data packet segment was sent **(paragraph [0017]and[0018] and [0033])**; responsive to said plurality of addresses and ports for said connection matching a buffered plurality of addresses and ports for said single connection **(paragraph [0018], where the connection matching is the corresponding of packets)**, buffering said new data segment at said network adapter with said plurality of data packet segments previously buffered **(paragraph [0017],[0018],and [0033])**.

As per claim 3, Haggar-Tokuyo teaches method for efficient packet desegmentation wherein said single connection is a TCP connection identified by a four-tuple **(Tukuyo: paragraph [0010])** of source and destination addresses and ports extracted from each TCP header of each of said plurality of data packet segments **(Haggar: (paragraph [0017],[0018])**.

As per claim 4, Haggar-Tokuyo teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a new data packet segment received at said network adapter is from a different connection than said single connection **(Haggar: paragraph [0025], lines 1-20)**.

As per claim 5, Haggar-Tokuyo teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a time a first receiving data packet segment from among said plurality of data packet segments is buffered at said network adapter exceeds a time threshold **(Haggar: paragraph [0025], lines 1-20, where the time threshold is the expiration of a timer)**.

As per claim 6, Haggar-Tokuyo teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when a queue size limit in said network adapter for buffering data packet segments is reached **(Haggar: paragraph [0025], lines 1-20, where the reaching of a queue size limit is the reaching of a counter of buffered packets and filling a packet buffer)**.

As per claim 7, Haggar-Tokuyo teaches a method for efficient packet desegmentation further comprising detecting said buffering release condition when an abnormal condition occurs, wherein said abnormal condition is at least one from among a checksum mismatch, a connection reset, an urgent pointer, and a missing packet being detected **(paragraph [0025] and[0034])**.

Claims 8-14 are substantially the same as claims 1-7, but in system rather than method form. Therefore, claims 8-14 are rejected using the same rationale. Furthermore, regarding an interface for facilitating transfer of data packets between a data processing system and a network **(paragraph [0005] and [0006])**.

Claim 15 is substantially the same as **claim 1** and therefore is rejected using the same rationale.

Claim 16 is substantially the same as **claim 2** and therefore is rejected using the same rationale.

Claims 17-20 are substantially the same as **claims 4-7** and therefore are rejected using the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMC

William J. Vaughn

Supervisory Patent Examiner **April 23, 2007**

WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100